REMARKS

Claims 1-34 are currently pending in the subject application and are presently under consideration. Claims 1-3, 5-6, 9, 11, 13, 15-17, 27, 32 and 34 have been amended herein to correct minor informalities and to further emphasize novel features of applicants' claimed invention. A version of all pending claims is found at pages 2-9. Favorable reconsideration of this application is respectfully requested in view of the following comments.

I.   Rejection of Claims 1-34 Under 35 U.S.C. §103(a)

Claims 1-34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Bak *et al.* (U.S. 5,999,732) in view of Yantchev *et al.*, "Adaptive, low latency, deadlock-free packet routing for networks of processors", IEEE Proceedings, 136, 178-186 (May 1989). This rejection should be withdrawn for at least the following reasons. Neither Bak *et al.* nor Yantchev *et al.*, either alone or in combination, teach or suggest each and every limitation of applicants' claimed invention.

> To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) *must teach or suggest all the claim limitations.* See MPEP §706.02(j). The *teaching or suggestion to make the claimed combination* and the reasonable expectation of success *must be found in the prior art and not based on the Applicant's disclosure. See In re Vaeck,* 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added).

Independent claims 1 and 15

Independent claims 1 and 15 recite *an initialization method activator that calls a class initialization method at a pre-determined execution point and a deadlock analyzer that determines whether running the class initialization method will produce a deadlock.* The claimed deadlock analyzer performs an analysis to determine if the class initialization method will produce a deadlock when run. As conceded in the Office Action, Bak *et al.* fails to teach or suggest such a deadlock analyzer. Yantchev *et al.* also does not teach or suggest a deadlock

analyzer that determines whether running the class initialization method will produce a deadlock. Rather, Yantchev *et al.* teaches deadlock prevention associated with packet routing communication networks, and does not pertain to class initialization in any manner. Further, Bak *et al.* and Yantchev *et al.* relate to different subject matter and provide no motivation to be combined with one another in the manner suggested absent impermissible use of applicants' claimed invention as a 20/20 hindsight based roadmap. Bak *et al.* relates to techniques for reducing the cost of dynamic class loading and initialization checks in compiled code, and in particular techniques for reducing the cost of dynamic class loading, and Yantchev *et al.* pertains to the provision of deadlock prevention in a packet routing network. Thus, it is submitted that the combination of Bak *et al.* and Yantchev *et al.* fails not only to teach or suggest applicants' claimed invention, but also that the combination of Bak *et al.* and Yantchev *et al.* is impermissible. Accordingly, it is requested that this rejection be withdrawn with respect to independent claims 1 and 15 (and claims that depend there from).

Independent claims 16, 28 and 31

Independent claims 16, 28, and 31 recite similar limitations, namely: *a semantic analyzing component* that determines a semantic type associated with the initialization method and *a deadlock analyzing component* that *determines whether calling the initialization method will create a deadlock and resolves the deadlock.* The Office Action asserts that Bak *et al.* provides a semantic analyzing component, and that Yantchev *et al.* provides the deadlock analyzing component recited in the subject claims.

As discussed above with respect to independent claim 1, Yantchev *et al.* fails to teach or suggest the deadlock analyzing component recited in applicants' claimed invention. In particular, Yantchev *et al.* fails to provide a deadlock analyzing component that can determine not only whether the invocation of an initialization method will create a deadlock, but that can also resolve the deadlock. Moreover, as discussed above, Yantchev *et al.* makes no mention of class initialization, much less determining and resolving deadlocks thereof. In addition, Bak *et al.* fails to provide the semantic analyzing component. Rather, Bak *et al.* provides a routine that analyzes a class field wherein the routine resolves the location of a field in memory and the class to which it belongs. In contrast, the claimed invention utilizes a semantic analyzer to determine a semantic type associated with the initialization method that in turn determines when the

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initialization method should run. Thus, Bak *et al.* fails to teach or suggest this salient feature of the claimed invention. Accordingly, the rejection of independent claims 16, 28 and 31, and associated dependent claims, should be withdrawn.

Independent claims 17 and 27

Independent claims 17 and 27 recite *determining whether calling the initializing method will generate a deadlock and if calling the initializing method will generate a deadlock, resolving the deadlock.* As the Office Action acknowledges, Bak *et al.* fails to provide the recited limitation. Thus, the Office Action attempts to utilize Yantchev *et al.* to cure this deficiency. However, as stated *supra*, Yantchev *et al.* is directed to analysis of deadlocks in computer networks rather than determining whether calling the initializing method will generate a deadlock, and if so resolving the determined deadlock. Accordingly, the combination of Bak *et al.* and Yantchev *et al.* does not teach or suggest the entirety of independent claims 17 and 27, and claims that depend there from, and thus this rejection should be reversed.

Independent claim 32

Independent claim 32 recites *means for identifying a constructor associated with a class* and ... *means for detecting deadlocks between constructors.* As the Office Action acknowledges, Bak *et al.* does not teach a means for detecting deadlocks between constructors, and thus the Examiner offers Yantchev *et al.* to rectify this deficiency. However, as stated *supra*, Yantchev *et al.* fails to disclose identification of deadlocks between constructors associated with a class, but rather, teaches deadlock prevention associated with packet routing communication networks. Accordingly, the rejection of claim 32 should be withdrawn.

Independent claim 33

Independent claim 33 recites *a data packet adapted to be transmitted between two or more components, the data packet comprising information associated with one or more nodes associated with a wait for graph, where the nodes model one or more threads to be analyzed to determine whether class initialization code will generate a deadlock.* Although both Bak *et al* and Yantchev *et al* teach data packets, neither discloses a data packet containing information associated with a wait for graph. Bak *et al.* merely teaches a data signal as part of a computer

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system using the internet for data storage. Further, Yantchev *et al.* discloses a data packet in terms of network routing and separately provides a wait for graph to identify packet communication deadlocks. Yantchev *et al.* however fails to disclose that the data packets containing information are associated with the wait for graph. Thus, it is submitted the combination of Bak *et al.* and Yantchev *et al.* fails to teach or suggest the limitations recited in independent claim 33, and that this rejection should be reversed.

Independent claim 34

Independent claim 34 as amended recites *a data packet adapted to be transmitted between two or more components, the data packet comprising: a first field that holds information concerning the identity of a thread that is attempting to initialize a class; a second field that holds information concerning the identity of one or more threads that are waiting for a class to be initialized; and a third field that holds information concerning the initialization status of a class to facilitate deadlock detection and resolution.* As stated above, neither Bak *et al.* nor Yantchev *et al.* teach or suggest a data packet that comprises a third field that holds information concerning the initialization status of a class in order to facilitate deadlock detection and resolution. Thus, it is requested that the rejection of claim 34 be withdrawn.

In view of at least the above, it is respectfully submitted that Bak *et al.* and Yantchev *et al.* does not make obvious the subject invention as recited in independent claims 1, 15, 16, 17, 27, 28, 31, 32, 33, and 34 (and claims 2-14, 18-26, 29, and 30 which respectively depend there from). Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063[MSFTP245US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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